# REMARKS

Claims 1-4 were rejected under 35 U.S.C. 102 (b) as being anticipated by Simpson et al (US 5,967,921).

Claims 1-4 have been cancelled. New claims 5-8 include the subject matter of previous claims 1-4. Claim 5 includes additional elements and limitations as compared to claim 1 which stands cancelled without prejudice. No new matter has been added.

Claim 5 recites elements and limitations not found in Simpson et al. (US 5,967,921) hereinafter "Simpson".

Claim 5 recites that the plastic outer body includes an eccentric inner body unit fitting hole and that the eccentric inner body unit fitting hole of said plastic outer body includes cylindrically shaped side walls forming a counterbore and a shoulder therein and a second eccentric counterbore therein. Claim 5 further recites that the inner body unit includes an inner body, an eccentric plunger accommodating hole within the inner body. The eccentric plunger accommodating hole includes cylindrically shaped walls forming a counterbore and a shoulder therein and a second bore therethrough. Claim 5 further recites the check valve press-fit into and residing partially within the second bore of the eccentric plunger accommodating hole of the inner body of the inner body unit. Claim 5 further recites that the check valve includes a portion thereof which protrudes eccentrically from the inner body of the inner body unit. The plunger, according to claim 5, slidingly engages the counterbore of the eccentric plunger accommodating hole and said the spring resides in the counterbore of the eccentric plunger accommodating hole intermediate the check valve and the plunger. The plunger is retained in the counterbore of the eccentric plunger accommodating hole of the inner body of the inner body unit by the ratchet.

Claim 5 further recites that the inner body of the inner body unit includes a generally cylindrically shaped exterior surface terminating in a planar end surface. Claim 5 recites that the  portion of the check valve which protrudes eccentrically from the inner body of said inner body unit includes a generally cylindrically shaped exterior surface. The inner body unit is inserted into and partially resides in the counterbore of the eccentric inner body fitting hole of the plastic outer body and the portion of the check valve which protrudes eccentrically from the inner body of the inner body unit and resides in but does not engage the  second eccentric counterbore of the eccentric inner body fitting hole of the plastic outer body.

Claim 5 further recites that a portion of the generally cylindrically shaped exterior surface of the inner body of the inner body unit interengages the counterbore of the cylindrically shaped eccentric inner body fitting hole of the plastic outer body. The portion of the generally cylindrically shaped exterior surfaces of the inner body of the inner body unit are completely sealed and affixed by heat welding to the cylindrically shaped eccentric inner body fitting hole of the plastic outer body.  Still further, claim 5 recites that the planar end surface of the inner body of the inner body unit interengages the shoulder of the counterbore of the cylindrically shaped eccentric inner body fitting hole of the plastic outer body.

The planar end surface of the inner body of the inner body unit is completely sealed and affixed by heat welding against and to the shoulder of the counterbore of the cylindrically shaped eccentric inner body fitting hole of the plastic outer body.

Claim 5 further recites that the insertion, affixation and sealing of the inner body unit in the counterbore of the eccentric inner body fitting hole of the plastic outer body and the orientation of the protruding portion of the check valve within but not engaging the second eccentric counterbore of the plastic outer body prohibits rotation of the inner body unit with respect to the plastic outer body.

Most of the elements and limitations present in claim 5 are not found in Simpson. Simpson lacks the claimed eccentricity of the inner body fitting hole, to wit, the claimed counterbores. Further, Simpson lacks the claimed eccentricity of the inner body unit, to wit, the eccentric plunger accommodating hole within the inner body as well as the counterbore and the second eccentric bore therethrough. The eccentricity is disclosed in Figs. 2, 3 and 4 as well as other drawing figures.

Claim 5 recites heat welding for the provision of a seal. In contrast, Simpson, has an inner body which includes ribs thereon and these ribs as previously demonstrated in this application generate errors and voids in the insert molding process and in the injection molding process. This is contrasted by the heat welding of the instant invention.

Realizing that claim 5 is not a process claim, it is the result, namely a complete seal between the inner body and the eccentric inner body fitting hole which is being claimed.

Welding is a process in which two or more materials are joined together by application of heat, pressure, or a combination of both. Simpson does not teach the use of joining two different materials with heat or pressure. Instead, a third material is inserted between the two previous materials. Welding in the present invention results in a joined area that is "completely sealed" between the inner and the outer body of the device, so that no leaks can occur. It is well known in the art that thermal welding provides high strength joining and complete seals that is not available in other forms of plastic processes. (See for example, Injection Molding Alternatives: A Guide for Designers and Product Engineers. Jack Avery, Hanser Publishers, on page 282 identifies the level of sealing joints with heat welding stating that "...properly designed joints can provide hermetic seals..." The entire heat welding process is rapid and results in a seal with high strength, sometimes approaching the strength of the base material itself. (See page 280 Injection Molding Alternatives: A Guide for Designers and Product Engineers, Jack Avery Hanser Publishers).

In contrast, in the Simpson reference, insert molding which is a type of injection molding is used. Injection molding is a process whereby plastic is injected into a cavity. Specifically, insert molding is a type of injection molding process whereby plastic is injected into a cavity around an insert piece placed into the molding cavity immediately prior to molding. This type of molding will not result in a completely sealed structure as claimed in the instant invention.

In Simpson, a tensioner 100 includes a housing 102 having a bore 104. The bore 104 has an inner surface 106. A sleeve 105 is received within the bore 104 of the housing body 102. The housing body 102 may be made of a plastic material such as polyphenylene sulfide with glass and mineral fillers. The sleeve 105 has an outer surface 108 having a plurality of projections or recesses 110. The sleeve 105 may be fixed within the bore 104 by using friction, threads, mechanical interlocking, or insert molding. Simpson lacks the inner body unit sealed to said eccentric inner body unit fitting hole in the outer body by heat welding

Simpson lacks an inner body heat sealed to an outer body. Simpson uses an insert molding process in which the sleeve 105 is positioned in the housing 102 by first placing the sleeve 105 in a mold 700. It is known in the art that insert molded structure does not result in same quality sealing between two different materials as heat welding or ultrasonic welding. Melted plastic is injected into the mold and surrounds the sleeve 105 within the mold and cools to form the housing body 102. Although the sleeve 105 may be embedded in the plastic of the housing body 102, the attachment between the housing 102 and sleeve 105 may contain gaps, bubbles, and voids and would not result in completely sealed structure between inner body and the outer body as claimed in the instant application.

Further, in Simpson the joining of the sleeve 105 and housing 102 requires an additional support element 114. The need for this additional structure occurs repeatedly throughout Simpson including col. 5, lines 49-51; col. 6, lines 27-44; col. 7, lines 11-18; and col. 7, lines 42-48; and col. 10, lines 28-33. Further, in col. 6, lines 40-43; Simpson states: “The positioning of the support element 114 may be such to prevent either outward, rotational, and/or lateral movement of the sleeve 105 with respect to the bore 104 of the housing body 102." The presence of this third material 114 between the other two materials (the sleeve 105 and housing body 102) in Simpson, is evidence a heat welded seal, or for that matter, a seal, is not found between the inner body and outer body as claimed in the instant invention. Further, there is no indication of a complete seal found in Simpson between the housing body 102 and the sleeve 105 as claimed in the instant application. It is absolutely clear that Simpson is an insert or injection molded process. This is easily found from a review of Figs. 1, 2, and 7 of Simpson. This is unlike the press-fit, heat welded complete seal of claim 5 of the instant invention.

Further, in col. 6, lines 1-10, Simpson teaches mechanical projections on the sleeve to provide bonding between the sleeve and the housing. Simpson lacks a heat welded seal in the plunger accommodating hole.

In claim 5, the inner body 24, the plunger 26, the compression spring 27, the check valve 31, and the ratchet are incorporated in the inner body side unit 33. The inner body side unit 33 is inserted into the outer body 23. The plunger accommodating hole 24a has the check valve extending into the outer body.

In Simpson, the check valve does not extend into the outer body. Simpson lacks a check valve eccentrically incorporated into the bottom of the inner body

In the claimed invention as set forth in claim 5, the check valve is off-center, namely, eccectric and protrudes from the inner body into the outer body. The eccentric location of the check valve incorporated into the bottom of the inner body is seen clearly in the left end view of Fig. 4(A) and the cross-sectional view of Fig. 4(B) in the instant application. In contrast, Simpson lacks any disclosure of a check valve eccentrically incorporated into the bottom of the inner body. In both Figs. 1 and 2, the check valve of Simpson is shown in a central position of the inner body.

The insertion, affixation and sealing of the inner body unit in the counterbore of the eccentric inner body fitting hole of the plastic outer body and the orientation of the protruding portion of the check valve within but not engaging said second eccentric counterbore of the plastic outer body prohibits rotation of the inner body unit with respect to the plastic outer body which may tend to occur due to engine forces. Further, the eccentric location of the inner body unit with respect to the outer body is structurally different than Simpson and is believed to prohibit rotation of the inner body unit with respect to the plastic outer body.

Anticipation requires that there be an identity of invention. Anticipation requires that all elements and limitations of the claim are found within a single prior art reference. There must be no difference between the claimed invention and the reference disclosure. Carella v. Starlight Archery and ProLine Co., 804 F.2d 135, 138, 231 USPQ 644, 646 (Fed. Cir. 1986). Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1549, 220 USPQ 193, 198 (Fed. Cir. 1983). Kalman v. Kimberly-Clark Corp., 218 USPQ 781 (Fed. Cir. 1983).

Claim 5 is believed to be allowable for the reason that it includes structure that is different and not found in the reference.

Claim 6 is allowable for its dependence on claim 5 which is allowable as well as for the reasons stated below.

In claim 6, ultrasonic deposition creates an integrated bond between plastic and metal forming a seal between the inner body and outer body. Ultrasonic deposition is also known as ultrasonic sealing or ultrasonic welding. Ultrasonic deposition is known for producing hermetic, air-tight, or complete seals.

Simpson lacks sealed structure as described above, in addition the composition and materials disclosed in Simpson are not capable of being ultrasonically welded together.

In Simpson, col. 5, lines 60-65, the housing is described of being made of steel or aluminum as well as polyphenylene sulfide (PPS) with glass and mineral fillers. Ultrasonic welding cannot take place with the compositions disclosed in the reference, to wit, steel, aluminum, or PPS. Further, polyphenylene sulfide plastic composition with glass fillers are not capable of being ultrasonically welded or sealed. ( See reference Rutland Plastics Limited , an injection molder which states that:" (Polyphenylene Sulfide) PPS Mouldings can be welded ultrasonically except for combined mineral and glass filled grades" page 2, http://www.rutlandplastics.co.uk/pps.html). **The structure disclosed in Simpson is different from the structure recited in claim 6 as shown by the type of material used.** The compositions disclosed in Simpson are not capable of being combined to result in the structure as claimed in claim 6. As a result, claim 6 is believed to be allowable.

Claim 7 is allowable for at least the reasons that claim 5 is allowable.

Further, claim 7 is allowable for the reason that the Simpson reference lacks the claimed elements of a bushing heat welded to an outer body. As discussed previously, heat welding results in a sealed structure which is different than the cited reference. This heat welded bushing is not found in the Simpson.

Claim 8 is allowable for at least the reasons that claim 5 and claim 7 are allowable. Further, claim 8 is allowable as the Simpson reference lacks a bushing ultrasonically welded to an outer body. As stated previously, ultrasonic welding results in structure that is different than the recited reference. The composition of the recited reference is not capable of being used to produce ultrasonically welded structure.

**Summary**

Claims 5-8 are believed to be in condition for allowance. Reconsideration of the application and claims 5-8 is respectfully requested.

Applicant wishes to thank the Primary Examiner for her consideration of this application.

The undersigned invites a telephone call from the Primary Examiner if it would expedite the processing and examination of the application.

Further, if there are any additional charges, or any overpayment, in connection herewith, the Commissioner is hereby authorized to charge any such deficiency, or credit any such overpayment, to Deposit Account No. 23-3060. This response is believed to be timely, however, in the event that the Commissioner deems it to be untimely, then please consider this as a petition for extension of time with authorization to charge deposit account 23-3060 therefor.

Respectfully Submitted

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